(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 20 March 2003 (20.03.2003)

PCT

(10) International Publication Number WO 03/022085 A2

(51) International Patent Classification7:

A41D 13/00

(21) International Application Number: PCT/GB02/04209

(22) International Filing Date:

13 September 2002 (13.09.2002)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0122082.1 13 September 2001 (13.09.2001) GB 0122084.7 13 September 2001 (13.09.2001) GB 0123844.3 4 October 2001 (04.10.2001) GB

(71) Applicant and

(72) Inventor: PLANT, Daniel, James [GB/GB]; Llanwinney Farm, Llangovan, Nr. Monmouth, Monmouthshire, Wales NP5 4BU (GB).

(74) Agents: WOODWARD, John et al.; Venner, Shipley & Co., 20 Little Britain, London EC1A 7DH (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

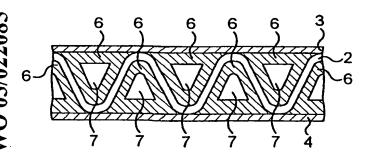
Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.







(57) Abstract: A flexible energy absorbing sheet material in which a dilatant material (6) is impregnated into or supported by a resilient carrier (1). The dilatant material remains soft until it is subjected to an impact when its characteristics change rendering it temporarily rigid, the material returning to its normal flexible state after the impact. The carrier can be a spacer fabric, a foam layer or modules or threads of dilatant material contained between a pair of spaced layers. Methods of manufacturing the energy absorbing sheet are also disclosed.